UNITED NATIONS
ECONOMIC
AND
SOCIAL COUNCIL

GENERAL

E/ESCAP/STAT.6/10
8 October 1985

ORIGINAL: ENGLISH

ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC

Committee on Statistics

Sixth session
19-25 November 1985
Bangkok

DEVELOPMENT OF ECONOMIC STATISTICS

(Item 6 of the provisional agenda)

REPORT OF THE PACIFIC SUBREGIONAL WORKSHOP ON PRICE STATISTICS

Note by the secretariat

CONTENTS

		Page
I.	Organization of the Workshop	1
II.	Status of price statistics in the Pacific	4
III.	The role of household expenditure surveys in consumer price indexes	4
IV.	Practical aspects in constructing and compiling consumer price indexes	9
V.	Case study in consumer price indexes: the Australian experience	15
VI.	An integrated and co-ordinated approach to the development of price statistics	17
VII.	Prices other than consumer prices, with emphasis on prices in international trade	19
VIII.	Adoption of the report	22
Annex.	List of documents	23

I. ORGANIZATION OF THE WORKSHOP

1. The Pacific Subregional Workshop on Price Statistics, organized by the secretariat of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), was held at Port Vila from 3 to 8 October 1983. Financial assistance for the Workshop was provided by the Government of Australia. Consultancy services were supplied by the United Nations Development Advisory Team for the Pacific (UNDAT) and the secretariat. Host facilities for the Workshop were provided by the Government of Vanuatu.

Attendance

2. The Workshop was attended by representatives of the following members and associate members of ESCAP: Australia, Fiji, Guam, Kiribati, Papua New Guinea, Samoa, Solomon Islands, Tonga, Trust Territory of the Pacific Islands (Federated States of Micronesia, Marshall Islands and Palau), Tuvalu and Vanuatu.

3. Representatives of UNDAT and the United Nations Statistical Office attended. The International Labour Organisation (ILO) and the South Pacific Commission (SPC) were represented.

Opening of the Workshop

4. The Workshop was opened by the Honourable Sela Molisa, Minister for Home Affairs, Government of Vanuatu. In welcoming the participants to the Workshop, he stated that the attendance of representatives of a large number of Pacific countries reflected the increasing attention paid to price data in recent years. As was the case in many other Pacific countries, consumer prices in Vanuatu were determined largely by import prices. Retail price data for Vanuatu were produced very rapidly and showed that the inflation rate had recently fallen to among the lowest in the world.

5. The Minister observed that accuracy and honesty in the figures published by national statistical offices were nowhere more important than in the field of price statistics. That task demanded statisticians of high professional integrity and with the competence to adapt techniques to the particular circumstances of the Pacific. He therefore welcomed the role of ESCAP, made possible by the Australian Government's generous financial contribution, in bringing together Pacific statisticians to

/exchange

exchange experience and gain expertise. In declaring the Workshop open, the Minister expressed the hope that the heavy programme planned for the Workshop would not preclude participants' enjoyment of the facilities which Port Vila had to offer.

6. In his message, the Executive Secretary of ESCAP expressed his warm gratitude to the Government of Vanuatu for providing excellent host facilities for the Workshop and to the Government of Australia for its generous financial and technical assistance. The Executive Secretary noted that price data needed improvement to provide a firmer basis for economic and social development planning. He hoped that the Workshop would enhance the capability of national statistical services in the Pacific subregion to deal with the complex problems associated with measuring inflationary trends.

7. The Executive Secretary described the various uses to which the consumer price index could be put and emphasized the importance of its accurate compilation. He recalled that the Workshop's focus on consumer prices stemmed from the expressed desire of Pacific countries for assistance in that field, and he noted that a workshop planned for the Asian subregion would stress rather different aspects of price statistics. In wishing the participants every success in their deliberations, the Executive Secretary concluded by reiterating his thanks to the various Governments and agencies which had collaborated in the organization of the Workshop.

Election of officers

8. The Workshop elected D. Salathiel (Vanuatu) Chairman, P. Taafuli (Samoa) and T. Rosario (Guam) First and Second Vice-Chairmen, respectively, and H. Narayan (Fiji), Rapporteur.

Adoption of the agenda

9. After discussion of the ordering of items, the Workshop adopted the following agenda:

1. Opening of the Workshop.
2. Election of officers.
3. Adoption of the agenda.
4. Country papers on the status of price statistics.

/5.

5. The role of household expenditure surveys in consumer price indexes.

6. Practical aspects in constructing, compiling and using consumer price indexes.

7. Case study in consumer price indexes: the Australian experience.

8. An integrated and co-ordinated approach to the development of price statistics.

9. Prices other than consumer prices, with emphasis on prices in international trade.

10. Adoption of the report.

Documentation

10. The list of documents which were before the Workshop is annexed to the present report.

Field visit

11. During the Workshop, participants visited the Statistics Office of Vanuatu, primarily to observe the compilation procedures of the four quarterly consumer price indexes (CPIs) produced, namely, high- and low-income indexes for the towns of Port Vila and Santo. The system was largely computerized and featured on-line data entry, editing checks, an updated outlet listing facility and computer generation of the next quarter's pricing sheets. The Office planned to use the existing NCR 7280 facility to computerize further CPI compilation and publication procedures. It was noted that the entire data file on the CPI, dating back to 1979, currently occupied only one the facility's eighteen 13.5 MB hard disc units.

Votes of thanks

12. At the conclusion of the Workshop, participants expressed their sincere gratitude to the Government and people of Vanuatu for the warm hospitality accorded to them and for the excellent facilities placed at their disposal. Those facilities and the hard work put in by the Statistics Office personnel servicing the Workshop had contributed greatly to its success.

13. Participants noted with great regret that the current Workshop would be the last ESCAP meeting to be attended by Mr. Max Barton in his capacity as UNDAT adviser on statistics. In thanking him for the great

/contribution

contribution he had made to statistical development in the Pacific over the past several years, the Workshop expressed its warmest wishes to Mr. Barton on his impending retirement.

II. STATUS OF PRICE STATISTICS IN THE PACIFIC

14. Participants made brief presentations on the status of price statistics in their respective countries, on the basis of the country papers prepared for the Workshop and a number of national price statistics publications (STAT/PSWPS/CRP.1-15). The representative of SPC provided information on a number of countries and areas not represented at the Workshop, and drew attention to the SPC annual statistical bulletin on retail price indexes (STAT/PSWPS/CRP.16)

15. Countries varied in the stage to which their price statistics had been developed. Fiji, for example, was regularly compiling six price indexes, while the newly established statistical offices in Palau, Ponape and the Marshall Islands were not yet in a position to publish any price data. Most countries represented compiled one index only, on consumer prices, which almost inevitably covered urban areas (or just the capital city).

16. Participants sought clarifications on the various country statements, and a number of difficulties common to price statistics work in most Pacific countries emerged. Those included low levels of budgetary allocation and trained manpower and the particular problem of pricing unavailable goods which arose because of the typically heavy dependence on imports. The Workshop noted, however, that most countries were planning to improve and expand their price collection and index publication activities; in particular some were intending to conduct new household expenditure surveys in order to update their CPIs. The international agencies represented at the Workshop offered to assist in those developments to the extent that their resources permitted.

III. THE ROLE OF HOUSEHOLD EXPENDITURE SURVEYS IN CONSUMER PRICE INDEXES

17. The Workshop had before it the document entitled "The role of household income and expenditure surveys in the development or revision of a consumer price index" (STAT/PSWPS/1), prepared by the International Labour Office.

18. The work of ILO in the field of household expenditure surveys (HES) was briefly described. From its very inception ILO had been concerned with policies, norms, measurements and the study of trends relating to living and working conditions. An early milestone had occurred in 1925 when the Second International Conference of Labour Statisticians had approached the subject of family income and expenditure surveys in connection with the problems of consumer price index numbers.

19. The Workshop's attention was drawn to the importance of household income and expenditure surveys, from which data could be derived for use in several different fields. They were frequently used as a basis for decisions on, for example, welfare-oriented policies and fiscal policies, or to study the redistributive effect of taxation and social benefits on the economic welfare of the population. For the purposes of the Workshop, however, derivation of expenditure weights for consumer price indexes was clearly the most relevant use of the household income and expenditure survey.

20. The Workshop noted other sources of household income and expenditure data. For example, income data might be collected through population censuses, income tax returns and social security records and so on. Information on expenditure might also be acquired indirectly from sales registers or from production or trade statistics.

21. The Workshop then considered the periodicity, survey design, sample size, reference period and methods of data collection of household expenditure surveys. As regards periodicity, it was noted that they might be carried out continuously, periodically (for example, annually or less frequently) or on an ad hoc basis. In the Pacific, such surveys were rarely carried out more frequently than once every five years.

22. It was felt that for a large number of Pacific countries sample size need not be very large, as households generally tended to be more homogeneous than in many other parts of the world and the expenditure of a relatively small number of randomly selected households could be expected to represent that of the entire population. The Workshop realized, however, that that might not be so in the case of Fiji, for example, which had three distinct expenditure patterns reflecting its three different races; in order to get a representative expenditure pattern for the

/country

country as a whole, a larger number of households might therefore be necessary. The Workshop also recognized that if the HES were designed for purposes other than or in addition to the derivation of CPI weights, the sample size would generally need to be considerably larger.

23. It was pointed out that in most Pacific countries, the normal pay period was two weeks. Thus it was felt that the reference period for recording expenditure should also be at least two weeks, although the problems of maintaining response rates beyond that period were recognized. Further, the span of household expenditure surveys in the Pacific was generally limited by budgetary considerations to two or three months, which was rarely representative of overall spending patterns throughout the year. In the case of Fiji, however, the Workshop was informed that the reference period for recording expenditure for their current survey was actually reduced from two weeks to one week since statistical tests proved that the differences in expenditure over a 12-month period were insignificant.

24. The difficulty in defining an enumeration unit in Pacific countries was also mentioned. The concept of a household was often hard to define, as many families regularly took their meals together and made their own arrangements for purchase or supply of food, whereas sampling units would probably be selected on a dwelling basis. Expenditure on rent, electricity and so on might thus relate to a single dwelling and expenditure on food to the occupants of several dwellings.

25. Considerable discussion centred on the method of data collection. Some participants stated that diaries had the advantage of providing data at low cost since transportation and interviewers' expenses were limited. However, the diary method could only be used when there was a literate person in the household. Diaries had other disadvantages: for example, some households would not be willing to keep them, while others would drop out after a certain time, making it difficult to maintain a sufficiently large and representative sample throughout the survey period.

26. The interview method, however, had the major disadvantage of relying on the recollection of the respondent and was therefore subject to a margin of error and perhaps to bias or systematic error. The relative advantages of using the interview or the diary method, or a combination of

/the two,

the two, were discussed. In the Pacific, generally, an initial interview followed by a diary collection was the usual procedure followed. The Workshop felt that poor experience with respondent recall lapses and high literacy rates in the Pacific tended to favour that method. In that connection, the Workshop studied in detail a questionnaire consisting of the household schedule and diary record book used in Hong Kong's Household Expenditure Survey, 1979/80.

27. The Workshop then discussed definitions of household consumption expenditure for the purpose of the consumer price index. It was pointed out that the concept of household consumption expenditure for that purpose had not been uniformly applied by all countries. In some Pacific countries, for example, the value of own farm or garden produce consumed by households, social welfare and benefits in kind, and imputed rent of owner-occupied dwellings might be considered as non-cash consumption items and hence excluded from the index. The difficulty of deciding whether to include expenditure on credit purchases, gambling and other such items was also mentioned.

28. The Workshop also reviewed the following three approaches which could be used to measure household consumption expenditure:

(a) The consumption approach, that is, the value of goods and services actually consumed during the reference period;

(b) The acquisition approach, that is, the total value of all goods and services acquired during the reference period;

(c) The payments approach, that is, the payments made for goods and services during the reference period, irrespective of whether or not they were actually acquired during that period.

Many participants felt that the acquisition approach was the most appropriate for obtaining the required data and was by far the most frequently used in the Pacific.

29. The Workshop then considered various methods of classifying and selecting items and assigning weights. The probability proportional to size sampling method for the selection of items was discussed, but the Workshop felt that it was quite difficult to use that technique in most countries. The Workshop then studied the derivation of the weights for the selected items and reallocation of expenditures for other items not selected, as it was not possible to gather prices for every single item of consumption.

/30.

30. The reliability of household expenditure surveys was also discussed. Attention was drawn to major discrepancies where HES understated the expenditure on alcohol, catering, tobacco and confectionery, and where adjustments were needed to revise expenditure by using data from other sources. It was also pointed out that changes in behaviour of the respondent might occur during the period of a survey, where an informant became conscious of his or her spending because of record-keeping and decided to reduce expenditure during the period.

31. The Workshop felt that the otherwise time-consuming processing of the raw data collected from household expenditure surveys lent itself very appropriately to microcomputers, which were now widely available in the Pacific.

32. The Workshop was informed of the forthcoming ILO document entitled "A technical guide on consumer price indexes" and looked forward to its publication in early 1984.

33. The Workshop discussed the advantages and disadvantages in the Pacific context of the household survey as a means of establishing the base weights for consumer price indexes. When properly organized and adequately funded, such surveys were able to cover the whole population while distinguishing variations in expenditure patterns among important groups, such as rural and urban households, low- and high-income households, agricultural and non-agricultural workers and so on. The Workshop recognized that the household expenditure survey was logically the most direct method of obtaining weights for the CPI in that consumers were reporting their actual expenditure patterns for the reference period.

34. Notwithstanding those advantages, the Workshop agreed that household expenditure surveys were the preferred source of data only under certain conditions. They were particularly suitable in the larger, more diverse Pacific economies where sufficient statistical resources could be devoted to their supervision and control. The Workshop felt that elsewhere in the Pacific, very serious consideration should be given to the use of administrative records and other official statistics in establishing expenditure weights for the CPI. Because there was little local production in many countries, import data would be very closely related to consumption. Further, administrative records were particularly

/valuable

valuable sources of data in the Pacific because of the widespread tendency of government authorities to control sales of a broad range of commodities. In some instances, retail sales information from, for example, a central co-operative buying group would almost certainly yield more accurate data than a household expenditure survey. In any event, such readily available data should always be utilized to supplement or verify information collected from a household expenditure survey, if one had been conducted.

IV. PRACTICAL ASPECTS IN CONSTRUCTING AND COMPILING CONSUMER PRICE INDEXES

35. For its consideration of item 6 of the agenda, the workshop had before it document STAT/PSWPS/5 prepared by the UNDAT consultant.

36. The workshop noted some special features of Pacific countries which needed to be taken into account in setting up and compiling CPIs. Those included the very heavy reliance on imported products and consequently almost total dependence on a shipping service which might be both infrequent and irregular; a limited range of products available for purchase and a restricted choice of brands, styles, pack sizes and so on; and the likelihood that many products would be out of stock more frequently than in other parts of the world. It was also noted that many statistical offices in the region were very small, some with a total staff of only one or two persons, and that since staff turnover was high, inexperienced and untrained personnel often did the work of collecting price data and compiling indexes.

37. In view of the frequent unavailability of many products, it was suggested that the number of items included in the regimen should be limited. There was general agreement that no item should be included unless there was a reasonable probability that its price changes could be monitored regularly over a long period. It was noted that some sections of the CPI posed particular problems in that regard, for example, clothing, furniture, electrical appliances and other household goods. The difficulties of price collection in those areas were increased by frequent changes in fashion, model, brand and quality. It was suggested that in those circumstances the regimen should be concentrated on the most popular and commonly purchased items. For example, the clothing group might be represented by a few everyday articles such as jeans, T-shirts, underclothes and popular dress materials. It could be expected that the prices of more fashionable and expensive garments would change proportionally.

/38.

38. The need for good documentation of CPI procedures was discussed, and the importance of a clear and concise instruction manual was stressed. It appeared that documentation in most countries had been greatly improved in recent years, although a few countries still operated without an instruction manual. It was generally felt that for those smaller countries which often had problems because of new and inexperienced staff, the manual should be very specific and should aim as far as possible to avoid situations where subjective judgement had to be exercised.

39. There was some discussion on the methods of selecting outlets from which prices were to be obtained. In general that was undertaken on a fairly ad hoc basis and very few countries attempted it on a scientific basis such as a random sampling selection process. In a few cases the information derived from a household survey was used to determine the outlets most appropriate for each item. For some smaller Pacific countries, the problem of outlet selection was of no concern because there were so few major outlets and all would be covered. However, the view was expressed that in the large countries existing methods of outlet selection were not completely satisfactory; in particular, new outlets which would reflect the changing pattern of buyer preference were not introduced as soon as they should be.

40. The method of collecting price data was discussed, and there was strong support for direct collection by personal observation at the retail outlets. At the same time it was recognized that in a few countries prices were collected in urban areas remote from the centre where the statistics office was located; in those circumstances some dependence on mail collection of prices was necessary.

41. Considerable discussion was devoted to the way in which item specifications should be set, and it was agreed that precise tightly defined specifications were preferable to generalized specifications. However, it was recognized that tight definitions tended to increase the likelihood of specified products being unavailable at price collection time. Two techniques were noted which could give some flexibility:

(a) The use of "store specific" specifications, that is, using different specifications of the same items from outlet to outlet, according to the most commonly-available product of each;

/(b)

(b) The inclusion in the item specifications of alternatives (for example, of brand, pack type and so on) which could be accepted if the exact specified product was unavailable. That technique could be extended to a listing of other brands or pack types which were not acceptable alternatives because of quality differences.

42. The Workshop discussed in some detail the procedures which should be followed when a specified product was unavailable at all outlets. It was agreed that when the item was temporarily out of stock the most recent price should be reproduced, and that procedure was followed by all the countries in the subregion. It was also noted that seasonal products presented very few difficulties for CPIs in the Pacific, but where problems were encountered the preferred and most usual approach was to reproduce the previous price until the item was available again. There was also general agreement that when a specified product became permanently unavailable it should be replaced as soon as possible. The importance was noted of maintaining regular contact with officials at the retail outlets in order to ascertain whether a product was likely to become available again.

43. It was recognized that, while a proper substitution procedure (including the imputation of new base period prices, when necessary) was essential in order to replace permanently unavailable products, quite often such procedures were not utilized. It was noted that in some countries unavailable products were retained in the index, with outdated prices being reproduced unchanged for long periods, in some cases several years.

44. In that context, attention was directed towards the use of the Modified Laspeyres formula, instead of the ordinary Laspeyres formula, for CPI purposes. It was noted that the Modified Laspeyres, while still a base-weighted index which gave exactly the same result as the traditional Laspeyres approach, did so by comparing prices for the current and the previous index period. That greatly simplified substitution procedures by avoiding the need to impute base prices. It was noted that Australia followed that system and that two Pacific countries which had recently adopted it appeared to be implementing substitution procedures more effectively than in the past. At the same time, two operational drawbacks to the Modified Laspeyres were noted - in some cases errors might be

/perpetuated

perpetuated because they became incorporated in the updated item weights, and there was some increase in manual procedures because new weights had to be transcribed onto each new index calculation form. There was no consensus on the desirability of switching to the Modified Laspeyres system, but some participants expressed interest in introducing it when their index was next rebased.

45. The Workshop also considered the procedures followed when the specified item was unavailable at some outlets. It was noted that at least three different procedures were in operation in different Pacific countries:

(a) For outlets where the product was unavailable, the previous price at that outlet was reproduced unchanged;

(b) The movement at outlets where the item was available was imputed to the out-of-stock outlets as well;

(c) The current level of prices was averaged only for those outlets where the item was available.

There was no general agreement on the relative merits of those three procedures. Instead it was considered that ideally the circumstances surrounding each particular case should be taken into consideration in deciding the most appropriate action to take. However, it was noted that that would increase the element of subjectivity in CPI procedures and therefore would not be appropriate for some smaller countries where it was desirable to reduce the amount of subjective judgement required.

46. There was considerable discussion on the appropriate procedures to be followed when products available at the outlets differed in either quantity or quality from those recorded on the item specifications. Most participants indicated that they would not accept prices where the quantity varied (that is, a different pack size) and would not adjust current prices to allow for the difference in size. It was also agreed that no Pacific country had the resources and expertise to assess the impact of quality change and to adjust prices accordingly. The only realistic alternatives were either to accept minor variations in quality and to treat the product as though it was unchanged or, if the quality change was too great to be accepted, to implement substitution procedures.

/47.

47. A particular aspect of quantity change of interest to the Workshop was the hidden changes which might occur in local markets when fresh fruit, vegetables and fish, sold by the heap, bundle, basket etc., might be maintained at a constant price, but with variations in the size of the heap, the number of items in the basket and so on. It was generally agreed that in those circumstances the items had to be weighed or counted in order to derive a comparable series of prices for a constant quantity. It was also noted that frequent measurement of prices in the local market might be needed, including recordings at different times of the day, because of the wide fluctuations in prices which might occur. The problem of price variations through bargaining was also discussed, but that was felt to be relevant to a few Pacific countries only. Where bargaining did occur, the preferred approach was to record the first-quoted price, without any attempt to bargain, because bargaining was very much an individual matter and the price reduction obtainable would not be consistent for different field workers engaged in price collection.

48. The Workshop discussed the frequency of CPI compilation and noted that while some Pacific countries had a quarterly index, others were on a monthly basis. It was generally agreed that compilation less frequently than quarterly was not desirable and that more frequent than quarterly compilation would depend on the expressed needs of individual Governments. Some participants expressed interest in the system operating in Guam, where quarterly compilation of the full CPI was supplemented by monthly compilation of the food group of the index.

49. It was noted that there was some variation in procedures in relation to discount or "special" prices, with the majority of participants reporting that such prices were accepted for CPI purposes, while in a few countries discount prices were regularly ignored and the normal retail prices used. However, it was agreed that discount prices would not be acceptable if they related to stock being sold off cheaply owing to damage or deterioration in quality.

50. The Workshop considered a number of situations when it might be desirable to collect prices additional to those which were required for normal compilation of the CPI. Those could include:

(a) "Shadow pricing", that is, the recording of prices for items not at present in the regimen but which seemed likely to be required in the

near future as substitutes. That technique gave a historical series of prices for the new product if it was brought into the regimen, and that made the substitution procedure easier; the technique was quite widely used in the Pacific, and the Workshop strongly supported it.

(b) In countries where the shipping services were infrequent, a price collection survey immediately after the arrival of a vessel in port was desirable even if it meant collecting prices before the actual reference dates. In that way the most recent prices would be captured if the specified products were to be sold out by the time of the normal price collection dates.

(c) Recording "dummy" prices for some products in order to conceal the exact composition of the regimen. That could help to prevent the manipulation of the CPI which could occur through the deliberate introduction of price changes of products known to be in the regimen. The procedure had been used in at least one Pacific country, and although at present it did not appear to be generally necessary, the dangers of outside manipulation of the CPI (especially where the index was used for wage adjustment purposes) were recognized by the Workshop. For example, it was noted that the selective imposition of price controls on items in the regimen could affect the accuracy with which the index measured price trends.

51. The Workshop noted that Pacific countries relied very heavily on imported produce and that to a large extent they had no control over the rate of inflation. One or two countries did attempt separate measurement of price trends for local and imported products. It was generally felt that, while such measures were potentially very useful, they could not easily be made accurately. The main difficulty if was that many CPI items comprised a mixture of local and imported content (for example, electricity charges and public transport fares, which incorporated a mixture of local wages, imported fuel, and so on) and hence could not be strictly classified to one category or the other.

52. In considering the methods of processing CPIs in the Pacific, it was noted that computer processing was currently used by only one country represented at the Workshop. It was felt that the arithmetic operations of a CPI were so straightforward and inexpensive that they were exceptionally suitable for computerization. It was noted that there was

/now

now a wide range of microcomputers throughout the Pacific, and the relatively small size of most CPIs suggested that they could easily be handled by any microcomputer with floppy disc drive attached.

53. At the same time it was acknowledged that there was a shortage of programming skills in the subregion, and computer processing of CPIs might be practicable only if suitable software was either available or could be developed. It was suggested that an approach be made to the Statistical Institute for Asia and the Pacific (SIAP), Tokyo, which had a software demonstration centre, to see if any suitable software existed. It was considered that the initial steps in the index computation, including item replacement and the calculation of average prices of each item, might be too country-specific to be handled by standard software. If so, it would be preferable to continue with manual processing of those steps. However, the final stages of the index computation process appeared to lend themselves particularly well to standard programmes, and it was hoped that software might be obtainable to provide Pacific countries with the facility to undertake those stages on a microcomputer without the need for programming expertise.

V. CASE STUDY IN CONSUMER PRICE INDEXES: THE AUSTRALIAN EXPERIENCE

54. The Workshop had before it for consideration the paper entitled "Case study in consumer price indexes: the Australian experience" (STAT/PSWPS/4). The Workshop also took note of documents STAT/PSWPS/6 and STAT/PSWPS/7 published by the Australian Bureau of Statistics.

55. Emphasis was given in the presentation of the paper to the long history of retail price indexes in Australia and to the significant use made of such indexes in wage fixation, both historically and in recent years.

56. The conceptual basis of the Australian CPI was discussed with specific reference to the treatment of house purchase as consumption expenditure within the scope of the index.

57. The Australian CPI provided the Workshop with an example of an index where the item weights had been determined without the benefit of a household expenditure survey (HES). Only one of the 10 reviews of the CPI had been based on HES data. The data sources used in deriving the

/weighting

weighting structure of the latest CPI series were outlined. The main problems in using non-HES data sources were the difficulty of estimating intermediate usage, of obtaining estimates of expenditure on some service items and in relating the estimates of expenditure to a particular subgroup of the population. However, it was noted that in a number of Pacific countries those problems were less serious, as intermediate usage was not so important, service items were not significant areas of expenditure and the population was relatively homogeneous. The Australian experience served to reinforce the Workshop's earlier conclusion on the roles of the HES and other data sources in determining a weighting pattern for a CPI.

58. The discussion of Australian CPI price collection procedures focused on the use made of specialist price collection staff, whom the Bureau of Statistics had little difficulty in retaining. The advantages of personal visit collection by such experienced statistical personnel were emphasized. Australia used relatively tight item specifications, which the Workshop had earlier agreed were desirable. The Workshop also recalled the importance of keeping confidential the precise item specifications in order to safeguard the integrity of the index.

59. The Australian CPI provided the Workshop with an example of a manual compilation system based on a version of the Modified Laspeyres approach discussed earlier (see paragraph 44 above). The advantages in using that type of approach were that new specifications could be readily introduced with there being no requirement to impute base period prices or to calculate "link" or "splice" factors as such. The system also allowed the "internal" weights used within each expenditure class to be readily changed between CPI reviews, thus allowing the index to be more representative of current expenditure patterns.

60. Australian compiling procedures were discussed with respect to the treatment of items for which prices were not available from some respondents. It was noted that in the Australian CPI such situations were handled by repeating the last recorded price, imputing the price movement shown by the other respondents, or simply using the average of the prices collected. The choice between those options was made after consideration of price movements at the respondent level over previous quarters. The

/Workshop

Workshop recalled that for most Pacific countries a less subjective approach was required, with firm rules provided on the approach to be taken in such situations.

61. The treatment of quality change in the Australian CPI was discussed with specific reference to:

(a) The treatment of changes in the quantity of the item priced. Where such changes were relatively small, the quality adjustment was based on an adjustment proportional to the quantity change. It was emphasized that where quantity changes were large, proportional adjustment should not be used, but rather the new size should be regarded as a new item for which the unit price was not comparable to that of the previous size;

(b) The treatment of more complex quality changes, in particular for clothing and motor vehicles. The Workshop concluded that for the majority of Pacific countries the Australian approach of directly measuring quality changes was not feasible, given the limited expertise and resources available. In those circumstances it was concluded that the only viable approach was to substitute the new item for the old item, that is, to "splice".

62. The Workshop also noted with interest other detailed aspects of consumer price collection work in Australia, including the periodicity of pricing various items, the number of items priced for each expenditure class (which depended not only on index weights but also on price volatility and dispersion), the occasional purchase of goods such as clothing to check on quality, the treatment of "hidden" quantity changes and of "free" gifts offered with merchandise and so on.

VI. AN INTEGRATED AND CO-ORDINATED APPROACH TO THE DEVELOPMENT OF PRICE STATISTICS

63. The Workshop considered the item on the basis of the documents entitled "A summary review of major international requirements for price statistics" (STAT/PSWPS/2) and "The development of an integrated and co-ordinated approach to national price statistics work" (STAT/PSWPS/8), both prepared by the United Nations Statistical Office.

64. The Workshop was informed that ILO and the United Nations Statistical Office shared the responsibility for promoting and developing

/the

the methodology of price statistics. In the field of price statistics, ILO dealt with consumer and retail price indexes, whereas the Statistical Office devoted its work to other price indexes. The implementation and co-ordination of the international price statistics programme were the general responsibility of the Statistical Office.

65. The Workshop's attention was drawn to the requirements of price statistics for purposes of (a) general macro-analysis, (b) balance-of-payments-related studies and (c) international pricing. The Workshop discussed the relevant price indexes and related indicators in the context of the detection, monitoring, analysis and forecasting of inflation. The Workshop recognized that special indicators not related to price statistics were helpful in determining price competitiveness in international trade and for other aspects of balance-of-payments analysis.

66. The Workshop noted that the Programme of Action for the Establishment of the New International Economic Order and the Integrated Programme for Commodities of the United Nations Conference on Trade and Development (UNCTAD) entailed stabilization of the prices of primary commodities and of developing countries' export earnings. The various price indexes required to monitor such stabilization were briefly reviewed. The Workshop noted that Pacific island economies were usually dependent on very few export commodities.

67. The Workshop discussed at length the demands for appropriate classifications to satisfy the requirements of an integrated and co-ordinated approach to the development of price statistics. The advantage of comparability through using the International Standard Industrial Classification of All Economic Activities (ISIC) for foreign trade price indexes was recognized by the Workshop, but it was also stressed that for most smaller countries, the collection and compilation of unit values in terms of the Standard International Trade Classification (SITC) would be all that was feasible. The Workshop noted that the compilation of import price indexes in terms of ISIC was less feasible for most Pacific countries than the compilation of export price indexes. The Workshop was informed that currently only a few developed countries, including Australia, were calculating specification price indexes in terms of two-digit ISIC categories.

/68.

68. In the context of examining the international price statistics programme, the Workshop compared the role of price indexes of private final consumption expenditure with that of consumer price indexes. Many countries only had the resources to compile one type of index; the role of the consumer price index as a social indicator was often more important than the role of price indexes of final expenditure, even though the latter were the more appropriate measure of overall inflation.

69. The Workshop briefly noted the role of various price indexes in deflating national accounts. It recognized that deflators usually represented a mix of year-to-year price changes of Laspeyres-type indexes. The Workshop noted that the international price statistics programme could contribute considerably to the more accurate deflation of national accounts, flows, because it incorporated a comprehensive set of subaggregate indexes.

70. The Workshop was informed about the order of priority for the different subprogrammes of the international price statistics programme suggested by the Joint Conference of African Planners, Statisticians and Demographers at its second session. In principle, the Workshop felt the proposed order of priorities to be broadly appropriate for the countries of the Pacific subregion, but felt that higher priority should be accorded to the extension of the scope and coverage of consumer price indexes.

VII. PRICES OTHER THAN CONSUMER PRICES, WITH EMPHASIS ON PRICES IN INTERNATIONAL TRADE

71. For the consideration of item 9 of the agenda, the secretariat introduced the document entitled "Non-consumer price indexes with an emphasis on indexes of international trade" (STAT/PSWPS/3), prepared by the New Zealand Department of Statistics.

72. The Workshop noted that in practice three types of index formulae (the Laspeyres, Paasche and Fisher Ideal) were used in index calculation. Depending on the intended coverage of the items to be priced, the formulae could be used to compile specific indexes as desired. The Workshop noted also that in general the Laspeyres price index was used when the weighting patterns did not change greatly from year to year. Paasche or Fisher indexes might be more suitable when weighting patterns were changing rapidly. Results obtained using the Fisher Ideal index were compared with

/those

those from Laspeyres and Paasche indexes. The Workshop observed that, while the Fisher index smoothed out the wide variations that might occur between Laspeyres and Paasche index numbers, it was rather difficult to describe what Fisher index numbers actually represented.

73. The Workshop noted that for the compilation of international trade indexes, there were basically two possible sources of data input: unit values derived from international trade statistics, and specification prices collected from exporters and importers. In that connection, the Workshop recalled that several developed countries were compiling trade indexes based on specification prices, but noted that New Zealand found unit value indexes to be satisfactory.

74. It was pointed out that though it might be convenient to compile unit value indexes from international trade statistics, the unit values which served as proxies for price data were only meaningful when the items for which they were calculated were homogeneous. The Workshop noted that goods falling within an SITC item but imported from different countries could be of different quality and thus might not be strictly comparable. Unit values in respect of those SITC items would therefore be misleading, and further inaccuracy resulted when there were changes in product mix over time. It was therefore necessary to examine the trade data to decide whether goods within the same classification category but from different countries could be considered as adequate substitutes. The Workshop noted New Zealand's experience that that was the case with most goods; however, the New Zealand external trade index processing system also provided an option whereby it was possible to calculate indexes for country groupings and for specified collections of items.

75. The Workshop noted that export prices varied according to the quality of the commodity. In order to ensure that quality-specific unit values could be calculated, it was possible to introduce more detailed coding in respect of export commodities. In Malaysia, for example, specific codes were provided for the various grades of rubber exported.

76. It was noted that the alternative to the unit value approach, namely, direct pricing, entailed decisions on the regimen, the item specifications, the respondents (importers and exporters) and the time of

/pricing.

pricing. The Workshop noted also the work-load often involved in direct pricing, although for exports some developing countries were already using direct specification pricing; that might be feasible for certain countries in the Pacific with a very few important export commodities.

77. The Workshop observed that items for which unit values could not be compiled and for which prices were not obtainable through a price survey might either be ignored or their price movements imputed from trends for related items - as was done in New Zealand for 40 per cent of imports and 10 per cent of exports. Alternatively, the indexes of major trading partners could be utilized.

78. The Workshop noted that apart from the various valuation bases in use, the valuation of international trade transactions was seriously affected by exchange rate fluctuations. In New Zealand the exchange rates on the transaction day were used to convert other currencies to New Zealand currency. The values used for index compilation were based on transaction values, and for those export items where prices were not available the exporters' estimate of price was used. C.i.f. (cost, insurance, freight) value was used for imports.

79. It was noted that international trade indexes measured changes in price levels expressed in national currencies. In order to study the competitiveness of exports, exchange rates also had to be taken into consideration. Processing systems could be designed to provide trading-partner-specific export price indexes.

80. The quality of trade indexes clearly depended on the quality of the constituent price data or unit values. The Workshop noted that in New Zealand final trade data underwent further editing for index production to ensure that unit values could be calculated and were reasonable. Items where price movements exceeded 10 per cent per quarter or 25 per cent annually were flagged for further examination before being accepted for processing.

81. The Workshop noted that the most resource-efficient method of index compilation was to select a certain number of items which dominated trade and to ensure that data relating to them were accurate. The remaining items could then be imputed.

/82.

82. The Workshop examined a possible strategy for the development or revision of indexes of international trade. Assessment of any current system should include its timeliness, accuracy, relevance to known user needs and efficiency in terms of manpower and computer resources. Before embarking on the compilation of indexes, it was very desirable to consult with potential users. That would ensure that users' needs could be met reasonably well and thus subsequent ad hoc exercises to compile additional data could be avoided or minimized. In addition, the Workshop noted that the methodology used in index compilation also needed to be examined. That called for decisions on, inter alia, the source of data, the level of aggregation, imputation methods, the formulae to be adopted, the method of data processing and the retention policy for input data.

VIII. ADOPTION OF THE REPORT

83. The Workshop adopted its report on 8 October 1983.

/Annex

Annex

LIST OF DOCUMENTS

Document No.	Title
STAT/PSWPS/L.1	Provisional agenda
STAT/PSWPS/1	The role of household income and expenditure surveys in the development or revision of a consumer price index (note by the Internaticnal Labour Office)
STAT/PSWPS/2	A summary review of major international requirements for price statistics (note by the United Nations Statistical Office)
STAT/PSWPS/3	Non-consumer price indexes with an emphasis on indexes of international trade (note by the Department of Statistics, New Zealand)
STAT/PSWPS/4	Case study in consumer price indexes: the Australian experience (note by the Australian Bureau of Statistics)
STAT/PSWPS/5	Practical aspects in constructing and compiling consumer price indexes
STAT/PSWPS/6	A guide to the consumer price index (Australian Bureau of Statistics)
STAT/PSWPS/7	Consumer price index - June quarter 1983 (Australian Bureau of Statistics)
STAT/PSWPS/8	The development of an integrated and co-ordinated approach to national price statistics work (note by the United Nations Statistical Office)

* * *

Country papers

STAT/PSWPS/CRP.1	Status of price statistics in Fiji
STAT/PSWPS/CRP.2	(Fiji) Consumer price index, 1979 = 100
STAT/PSWPS/CRP.3	The Guam Consumer Price Index: 1978; Market Basket and Expenditure Weight Adjustment
STAT/PSWPS/CRP.4	Guam Consumer Price Index: Quarterly Report, April-June 1983
STAT/PSWPS/CRP.5	(Guam) Monthly Food Index for July 1983

Document No.	Title
STAT/PSWPS/CRP.6	Status of price statistics in Kiribati
STAT/PSWPS/CRP.7	Country paper: Papua New Guinea
STAT/PSWPS/CRP.8	Samoa country paper
STAT/PSWPS/CRP/9	Price statistics in Solomon Islands
STAT/PSWPS/CRP.10	Kingdom of Tonga: Consumer price index
STAT/PSWPS/CRP.11	Country statement: Republic of Palau
STAT/PSWPS/CRP.12	Tuvalu retail price index
STAT/PSWPS/CRP.13	Country statement: Vanuatu
STAT/PSWPS/CRP.14	Vanuatu Statistical Bulletin: Consumer price indexes, 1980-1982
STAT/PSWPS/CRP.15	An analytical look at index numbers of consumer prices in Vanuatu

* * *

STAT/PSWPS/CRP.16	South Pacific Commission, Statistical Bulletin No. 21: Retail Price Indexes 1981
STAT/PSWPS/CRP.17	The Sample Design as at 1979 (extract from the Family Expenditure Survey Handbook, Office of Population Censuses and Surveys, United Kingdom of Great Britain and Northern Ireland)

* * *

Background documents

Guidelines on Principles of a System of Price and Quantity Statistics, Statistical Papers, Series M, No. 59 (United Nations publication, Sales No. E.77.XVII.9).

Strategies for Price and Quantity Measurement in External Trade, Statistical Papers, Series M, No. 69 (United Nations publication, Sales No. E.82.XVII.3).

. . . . .